

I claim:

1. A drive circuit for a firing cap, triggerable by an electric direct current firing pulse, of a vehicle restraint system, the drive circuit comprising:

a firing circuit connected between a supply voltage of a first potential, and a reference voltage of a second potential, said firing circuit containing:

a high side switch having a control electrode and a controlled path connected to the firing cap;

a low side switch having a control electrode and a controlled path connected to the firing cap, said high side switch, the firing cap and the low side switch being connected in series, said firing circuit being activated by a drive signal fed simultaneously to said control electrode of said high side switch and of said low side switch for feeding a firing current to the firing cap during the firing pulse;

a power switching element having a controlled path connected in series with said controlled path of said high side switch and of said low side switch to draw lost power from said firing circuit during the firing pulse;
and

a capacitor for storing energy and connected in parallel with said firing circuit.

2. The drive circuit according to claim 1, further comprising a control device for switching on said power switching element at least during the firing pulse, and then switching said power switching element off again, said power switching element is a switching element which can be switched on and off and is connected to said control device.

3. The drive circuit according to claim 2, wherein said control device switches on said power switching element before a start of the firing pulse.

4. The drive circuit according to claim 1, wherein said high side switch and said low side switch are integrated and form an integrated circuit chip, said power switching element is connected externally to said integrated circuit chip.

5. The drive circuit according to claim 1, wherein:

said high side switch is a P-type channel FET;

said low side switch is an N-type channel FET;

said power switching element is an N-type channel power FET;
and

the first potential is a high potential and the second
potential is a low potential.

6. The drive circuit according to claim 5, wherein said N-type channel power FET is wired to operate as a source follower during a switched-on period.

7. The drive circuit according to claim 5, wherein said N-type channel power FET contains a reverse diode.

8. The drive circuit according to claim 7, wherein said high side switch and said low side switch both have a reverse current blocking function.

9. The drive circuit according to claim 1, wherein said high side switch and said low side switch together define one of a plurality of pairs which are assigned to a respective said firing circuit and integrated in an integrated circuit, and said power switching element, which is connected outside said integrated circuit, is common to all said firing circuits.

10. The drive circuit according to claim 1, wherein the vehicle restraint system is an airbag restraint system in a motor vehicle.